

# Re-simulation-based self-supervision for representation learning - Poster

*Thursday 1 February 2024 16:45 (5 minutes)*

Self-Supervised Learning (SSL) is at the core of training modern large ML models, providing a scheme for learning powerful representations in base models that can be used in a variety of downstream tasks. However, SSL training strategies must be adapted to the type of training data, thus driving the question: what are powerful SSL strategies for collider physics data? In the talk, we present a novel re-simulation-based SSL (RS3L) strategy wherein we develop a method of “re-simulation” to drive data augmentation for contrastive learning. We show how a RS3L-trained base model can learn powerful representations that can be used for downstream discrimination tasks and can help mitigate uncertainties.

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**Authors:** MAIER, Benedikt (KIT - Karlsruhe Institute of Technology (DE)); KRUPA, Jeffrey (Massachusetts Institute of Technology); PIERINI, Maurizio (CERN); KAGAN, Michael (SLAC National Accelerator Laboratory (US)); WOODWARD, Nathaniel Sherlock (Massachusetts Inst. of Technology (US)); HARRIS, Philip Coleman (Massachusetts Inst. of Technology (US))

**Presenter:** KRUPA, Jeffrey (Massachusetts Institute of Technology)

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